

REMARKS

The Office Action dated May 5, 2006 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 7, 9, 12, 13 and 19 are amended to more clearly recite statutory subject matter, particularly point out and distinctly claim the subject matter of the invention and to correct informalities. New claim 20 is added. No new matter is added. Claims 1-20 are respectfully submitted for consideration.

The Office Action rejected claim 19 for being directed to non-statutory subject matter. Applicants respectfully submit that claim 19 is directed to a computer program embodied on a computer readable medium, and is therefore directed to statutory subject matter. Accordingly, withdrawal of the rejection under 35 U.S.C. 101 is respectfully requested.

The Office Action rejected claims 1-19 under 35 U.S.C. 103(a) as being obvious over US Patent No. 6,430,397 to Willret (Willret), in view of US Patent No. 6,140,964 to Sugiura et al. (Sugiura). The Office Action took the position that Willret disclosed all of the features of these claims except determining from the arrival time at each location measurement unit and its distance from the transmitting transmitter, the transmission time, and comparing the transmission times determined for each of the location measurement units and placing on the list only those location measurement units whose transmission lines fall in a predetermined range of one another. The Office Action

asserted that Sugiura disclosed these features. Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in any of the pending claims.

Claim 1, from which claims 2-10 depend, is directed to compiling a list of usable neighbour location measurement units in a mobile communications network. A signal is received from one of a plurality of transmitters at each of a set of location measurement units and time stamping the signal with the arrival time at each location measurement unit. The transmission time is determined from the arrival time at each location measurement unit and its distance from the transmitting transmitter, the transmission time. The transmission times determined for each of the location measurement units are compared and placed on the list only those location measurement units whose transmission times fall in a predetermined range of one another. The mobile communications network comprises a plurality of transmitters with a plurality of location measurement units.

Claim 11, from which claims 12-18 depend, is directed to a serving measurement location centre in a mobile communications network. A processor is arranged to receive from each of a set of the location measurement units receiving a signal from one of the transmitters a transmission time calculated at the respective measurement units. A store holds a list of useful location measurement units. The processor being programmed to compare the transmission times determined at each of the location measurement units and to place on the list only the location measurement units whose determined transmission

times fall in a predetermined range of one another. The communications network includes a plurality of transmitters and a plurality of location measurement units.

Claim 19 is directed to a computer program A computer program embodied on a computer readable medium, said computer program comprising program code which, when executed on a processor causes the processor to receive from each of a set of location measurement units associated with the base stations a transmission time calculated at the respective location measurement unit. The program further causes the processor to compare the transmission times determined at each of the location measurement units and to place on a list of usable neighbour location measurement units only those whose transmission times fall in a predetermined range of one another.

According to certain embodiments, the present invention is directed to compiling a list of location measurement units in a mobile communications network that includes a plurality of transmitters (e.g. base stations) and a plurality of location measurement units (LMUs) in communication with one or more of the transmitters. See for example page 6 lines 8-23 and Fig. 1 of the present application. The location measurement units are used to determine the position of mobile stations in the network (see page 6, lines 28-30 of the present application). In order to do so, a list is maintained of location measurement units which would be suitable for performing the calculation (see page 8 lines 1-2 of the present application). Applicants respectfully submit that each of the above claims recite features that are neither disclosed nor suggested in any of the cited references.

Willrett is directed to measuring the transmission quality in cells of a mobile radio network. According to Willrett, this involves travelling throughout a number of cells in a vehicle accommodating a specially adapted mobile station MS (column 1, lines 51 to 63). Signals received at this mobile station via a base station BTS are then recorded and stamped with a time stamp by an associated mobile radio analysis device MA (column 2, lines 6 to 9).

Sugiura is directed to detecting a position of a mobile station in a radio communications network. According to Sugiura, this involves measuring and storing the signal strengths of a plurality of signals received at a mobile station from a respective plurality of base stations. This is repeated at a number of different measurement points or locations, and the received signal strengths are correlated against the position of the mobile station. The recorded signal strengths can then be compared against subsequently measured results in order to determine the position of a mobile station. For example see column 5, lines 8-33 of Sugiura.

Applicants respectfully submit that the cited references fail to disclose or suggest at least the feature of a receiving a signal at each of a set of the location measurement units, as recited in claim 1 and similarly recited in claims 11 and 19. The Office Action relied on Willrett to disclose this feature. However, Willrett fails to mention, disclose or suggest the feature of a set of location measurement units, as recited in the pending claims. Willrett merely teaches surveying each of the cells using a single receiving mobile station. Further, Sugiura fails to cure this deficiency.

Furthermore, Applicants respectfully submit that the cited references fail to disclose or suggest at least the features of determining from the arrival time at each location measurement unit and its distance from the transmitting transmitter, the transmission time, and comparing the transmission times determined for each of the location measurement units and placing on the list only those location measurement units whose transmission times fall in a predetermined range of one another, as recited in claim 1 and similarly recited in claims 11 and 19. The Office Action admitted that Willrett fails to disclose these features and relied on Sugiura to cure this deficiency. Applicants respectfully submit that Sugiura fails to cure the admitted deficiencies of Willrett.

For example, the Office Action asserted that Sugiura discloses compiling a plurality of base stations. However, the Office Action also asserted that the base stations described in Wilrett and Sugiura, read upon the “transmitters” recited in the pending claims and, that the mobile stations described in Willrett and Sugiura, read upon the recited feature, “location measurement units”. Thus, in order for the combination of Willrett to remotely read upon the features recited in claims 1 and 11, Willrett and Sugiura would have to disclose or suggest compiling a list of mobile units, which is clearly not the case. Even if for the sake of argument that the above is true, the Office Action has merely asserted that the cited combination discloses compiling a set of base stations (alleged in the Office Action as transmitters).

Furthermore, there is simply no teaching or suggestion in Sugiura of determining a transmission time based on an arrival time or a distance, nor of adding stations to a list

only if those times fall within a predetermined range of one another, as recited in claims 1, 11 and 19, as alleged in the Office Action. Therefore, Sugiura has no way of ensuring that only line-of-sight signals are used. Such signals are not even utilized in this manner in Sugiura. The need to exclude non line-of sight and multipath signals is only a requirement where transmission times are to be used in the position determination process, because they would give rise to erroneous results. However, as discussed above, Sugiura is only concerned with compiling a list of signal strengths received at a number of different measurement positions, and not with measuring transmission times. The Office Action cited column 4, lines 1-54; column 10, lines 10-50; and column 25, line 35 — column 26, line 15. The passages cited in the Office Action further evidences the distinctions noted above. Thus, Sugiura fails to cure the admitted deficiencies of Willrett.

Applicants further submit that Sugiura fails to cure the deficiencies of Willrett because there is a lack of motivation to combine the teachings of Sugiura with the teachings of Willrett.

To establish prima facie obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicants'

disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In the present case, Willrett discloses that the position of the mobile station is first measured using a GPS system, and that position is then used in the process of determining signal quality. Sugiura actually teaches away from the teachings of Willrett. Sugiura discloses that the signal strength is measured first and that the signal strength is then used in the process of determining the mobile station's position. Further, The Office Action fails to even state why one skilled in the art would be motivated to combine the teachings of Willrett and Sugiura. Thus, the Office Action has not provided the proper motivation to combine the two references, and therefore, Sugiura cannot be properly relied upon to cure the deficiencies of Willrett.

Applicants further submit that because claims 2-10 and 12-18 depend from claims 1 and 11, these claims are allowable at least for the same reason as claims 1 and 11, as well as for the additional features recited in these dependent claims.

Based at least on the above, Applicants respectfully submit that cited references fails to disclose or suggest all of the features recited in claims 1-19. Accordingly, withdrawal of the rejection of claims 1-19 under 35 U.S.C. 103(a) is respectfully requested.

As stated above, new claim 20 is added. Applicants respectfully submit that claim 20 recites features that are neither disclosed nor suggested in any of the cited references.

Applicants respectfully submit that each of claims 1-20 recites features that are neither disclosed nor suggested in any of the cited references. Accordingly, it is respectfully requested that each of claims 1-20 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



David E. Brown
Registration No. 51,091

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

DEB:jkm

Enclosure: Fee transmittal